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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/619,004 | 07/15/2003 | Hidehito Takayama | 03500.017403 | 6047 |

5514 7590 04/05/2005

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NEW YORK, NY 10112

EXAMINER

MCPHERSON, JOHN A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1756

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,004

Applicant(s)

TAKAYAMA ET AL.

Examiner

John A. McPherson

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/15/03, 10/10/03 and 10/27/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/10/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 2 requires the step of forming a liquid discharge port in *the coating layer*, however this embodiment is not described in the specification. Specifically, *the coating layer* is the coating layer set forth in claim 1, lines 5-7 containing a resin forming a wall of the liquid flow path disposed so as to coat the liquid flow path (e.g. layer 6 in Figure 2E). However, the liquid discharge ports of the present invention are formed in a different resin layer (e.g. layer 3 in Figure 2L). Note that claims 3 and 4 correctly set forth the embodiment described in the specification.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the liquid flow path" in lines 7 and 16. There is insufficient antecedent basis for this limitation in the claim. Note that "the liquid flow path" is different from "the liquid flow path pattern" (see lines 7-8 and 15-16). This rejection could be overcome by changing "the" liquid flow path to --a-- liquid flow path in line 7.

3. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear if "the layer of the resin formed on the substrate" (claim 8, line 3) refers to "a liquid flow path pattern containing a soluble resin on a substrate" (claim 1, lines 3-4) or to "a coating layer containing a resin forming a wall of the liquid flow path" (claim 1, lines 6-7).

Pertinent Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,980,026 discloses a process for producing an ink jet head comprising the steps of providing a substrate with a liquid discharge energy-generating portion, forming a photosensitive resin layer on the substrate, patterning the photosensitive layer into a liquid flow path pattern to form a solid layer, covering the solid layer with a liquid flow

path wall construction material, curing the liquid flow path wall construction material, and removing the solid layer by dissolution to form a liquid flow path.

US 5,229,785 discloses a method of manufacturing a thermal inkjet printhead comprising the steps of providing a dummy substrate, forming a plastic orifice plate member on top of the dummy substrate, forming an insulating barrier layer provided with a plurality of firing chambers on the plastic orifice plate, depositing a thin film resistor substrate on the barrier layer, and removing the dummy substrate from the composite structure.

US 6,364,468 discloses a method of manufacturing an ink-jet head comprising the steps of forming plural individual electrodes and plural piezoelectric devices stacked on a supporting substrate, flattening the top surface by filling a filler, forming a common electrode on the entire flattened surface, fixing a pressure chamber part on the common electrode, and removing the substrate.

Allowable Subject Matter


5. Claims 1-9 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action because in a manufacturing method of a liquid jet head comprising the steps of disposing a liquid flow path pattern containing a soluble resin on a substrate, disposing a coating layer containing a resin forming a wall of a liquid flow path so as to coat the liquid flow path pattern, and removing the liquid flow path pattern to form the liquid flow path, the prior art does not teach or suggest the method further comprising the steps of disposing a

liquid discharge energy generation element for generating an energy for use in discharging a liquid in a place disposed opposite to the liquid flow path pattern, and separating and removing the substrate.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. McPherson whose telephone number is (571) 272-1386. The examiner can normally be reached on Monday through Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John A. McPherson
Primary Examiner
Art Unit 1756

JAM
4/1/05